

Public Hearing, Legislative Office Building

February 22, 2016

Raised Bill H.B. 5335

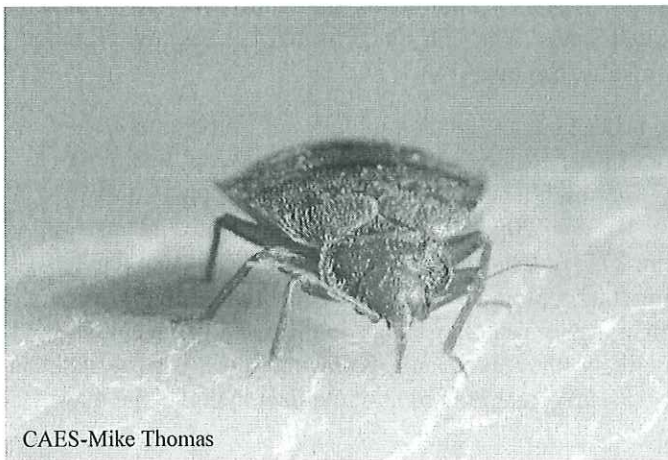
Statement

An Act Concerning the Rights and Responsibilities of Landlords and Tenants Regarding the Treatment of Bed Bug Infestations

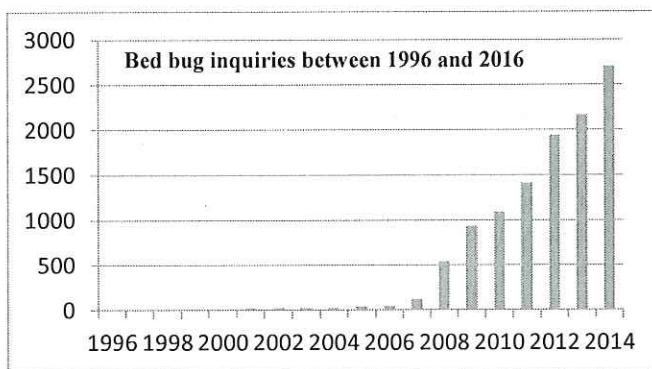
Dr. Gale E. Ridge

Bed bug researcher and chair of the Connecticut Coalition Against Bed Bugs (CCABB)

The Connecticut Agricultural Experiment Station, New Haven, CT 06504



Bed bugs are at pandemic levels and show no sign of slowing down. The high school child with cerebral palsy who was banned from school for having bed bugs, the elderly woman who resorted to sleep, sitting on a stool with her head resting on the toilet seat for fear of being “bitten,” are two of thousands of citizens I have seen. During the fiscal year 2014-15 2,751 (31%) of the inquiries in my office at the Experiment Station were for bed bugs, and these are not quick casual five minute chats, but intense interactions with citizens that are in shock and often desperate. This is a jump of over 600 inquiries from the previous year. People are looking for expert help and advice and often delay seeking assistance because of the social stigma of bed bugs, anxiety in how to deal with the pest, and often the initial use of ineffective treatments.



The paralysis of social stigma speaks to the fear of reporting bed bugs and facing accusations of causing the problem and being responsible for control costs; facing an insinuation of filth and inferiority; and worries about being taken by unscrupulous individuals and LLC's that use products and services that don't work. Obstructionism, lack of leadership, special interests, and ignorance of the issues have impeded

progress and needed bed bug legislation, which simply perpetuates the bed bug problem. Connecticut bed bug victims need your help. Trained pest management professionals can manage out of control bed bug infestations, even in large apartment complexes. In Hartford, one company brought 300 infested apartments down to two. The use of ineffective over-the-counter products by homeowners, landlords,

tenants, and other property concerns perpetuates an existing bed bug infestation and promotion of these products could constitute consumer fraud.

This bill lays down a series of directions on how landlords and tenants should proceed, in consultation with the Connecticut Coalition Against Bed Bugs* to intercept and neutralize this insects devastating impact on Connecticut's residents. We are dealing with a living organism, not an abstraction that can seriously hurt people and business. However, there are simple, common-sense approaches to managing bed bug infestations and this bill will help do this. The Connecticut Coalition Against Bed Bugs and I support this bill. We have the expertise in law, health, insect biology, pest management, and research to assist legislators and invested parties to find common ground in solving the State's bed bug crisis.

I will address two points, the use of "Over the Counter Pesticides" (OCP's) and vacuuming by landlords to treat for bed bugs.

The EPA (Environmental Protection Agency) and CDC (Centers for Disease Control and Prevention) consider the Common bed bug, *Cimex lectularius* L., a pest of "significant public health importance" and an increasing health problem throughout the United States. The CDC documented 111 cases of pesticide poisoning through misuse by untrained citizens against bed bugs.

The trend for bed bug infestations to increase in private homes, condominiums, and apartments due to pesticide resistance and innate bed bug behavior. These are shy, crack and crevice insects, that move between a host and their harborage. They cause very high levels of anxiety from their human hosts, which is an example of a host-parasite complex. For over 200,000 years they have adapted against predation and human efforts to exterminate them. One of their many survival strategies is that females hide eggs. I have discovered that females during their reproductive cycles frequently hide eggs away from their harborage, which is a form of biological insurance policy. Thus in the event that a clutch is attacked or destroyed, the sequestered eggs may likely survive to hatch. Knowing this, it is suggested that landlords be encouraged to vacuum cracks and crevices (paragraph b1), to intercept nymphs that may have hatched from these sequestered eggs.

Additionally, there is interest to include language in the bill, allowing landlords to self-treat. Research at The Connecticut Agricultural Experiment Station and elsewhere, repeatedly show OCP Type I pesticides sold to the public, are ineffective. Type I OCP's are less than 5% effective whereas Type II pesticides, available to Pest Management Professionals (PMP's) are up to 95% effective. Having untrained citizens treat for bed bugs is almost always ineffective and may actually disperse the insect to adjacent apartments. I suggest the following approach to the citizens that come to our insect information office to increase the likelihood of success in managing their bed bug infestation:

1. before treating for bed bugs, a landlord must vacuum cracks and crevices inside a living space that includes furniture, all framing, baseboards, and outlets, etc. to remove bed bug protective debris and the insects themselves; as well as allowing OCP's, if bought, deeper penetration into voids,
2. a landlord should only treat once before engaging a PMP, to minimize pesticide overload in a building, and
3. 10 days post treatment (a timing to intercept bed bug biology), a trained Connecticut licensed PMP must be called to inspect. Cleaning and evidence of what pesticides were used and how much, should be presented to the PMP. This will assist the PMP in assessing safety levels of pesticide load in a building. If live bed bugs are found and the PMP is engaged, it will be useful information in deciding best Integrated Pest Management (IPM) practice measures, for a safe effective treatment.

*CCABB consists of members from CAES, DPH, a local health department, DEEP, state attorney's office, and pest management professionals.

References supporting text

- Abdel-Naser M.D., R.A. Lotfy, M.M Al-Sherbiny, N.M. Sayed Ali. 2006.** Patients with popular urticarial have IgG antibodies to bedbug (*Cimex lectularius*) antigens. *Parasitol Res* 98:550-556.
- Adelman Z.N., K.A. Kilcullen, R. Koganemaru, M.A. Anderson, T.D. Anderson, D.M. Miller. 2011.** Deep sequencing of pyrethroid-resistant bed bugs reveals multiple mechanisms of resistance within a single population. *PLoS ONE* 6: e226228.
- Anderson A.L., and K. Leffler. 2008.** Bedbug infestations in the news: a picture of an emerging public health problem in the United States. *J. Environ. Health* 70: 24-27.
- Anderson J. F. and R. Cowles 2012.** Susceptibility of *Cimex lectularius* (Hemiptera: Cimicidae) to Pyrethroid Insecticides and to Insecticidal Dusts With or Without Pyrethroid Insecticides. *J. Med. Ent.* Vol. 105. No. 5: 1789-1795.
- Centers for Disease Control and Prevention and U.S. Environmental Protection Agency. 2010.** *Joint Statement on Bed Bug Control in the United States from the US Centers for Disease Control and Prevention (CDC) and the US Environmental Protection Agency (EPA).* Atlanta, GA: Department of Health and Human Services.
- Centers for Disease Control and Prevention. 2011.** Acute illnesses associated with insecticides used to control bed bugs-seven states, 2003-2010. *MMWR Morb. Mortal Wkly. Rep.* 60: 1269-1274.
- Doggett S.L. 2007.** A code of practice for the control of bed bug infestations in Australia. (http://www.bedbug.org.au/bedbug_cop.htm).
- Doggett S.L., D.E. Dwyer, P.F. Peñas, R.C. Russell. 2012.** Bed bugs: clinical relevance and control options. *Clin. Microbio. Rec* 25:164-192.
- Goddard J., and R. de Shazo. 2012.** Psychological effects of bed bug attacks (*Cimex lectularius* L.). *Am J. Med* 125: 101-103.
- Hase A. 1917.** Die Bettwanze (*Cimex lectularius* L.) ihr. Leben und ihre Bekämpfung. *Monogr. Angew. Entomol.* No. 1. Z. Angew. Entomol. IV, Beiheft I, vi +144 p., 6 pl., 131 text fig.
- Hwang S.W., I.J. Svoboda, K.J. De Jong, Kabasele, E. Gogosis 2005.** Bed bug infestations in an urban environment. *Emerg. Infect. Dis.* 11: 533-538.
- Johnson C.G. 1942.** The ecology of the bed-bug, *Cimex lectularius* L., in Britain. *J. Hyg.* 41 (4): 345-361
- Johnson M.S. and A.J. Hill. 1948.** Partial resistance of a strain of bed bugs to DDT residual. *Med. News Letter* 12 (1): 26-28.
- Johnson C.G., and K. Mellanby. 1939.** Bed-bugs and cockroaches. *Proc. Roy. Entomol. Soc. London* (A) 14 (2-3): pg. 50.
- Kemper H. 1936.** Die Bettwanze und ihre Bekämpfung. *Z. Kleintierk., PelztierK.* 12 (3): 1-107, 18 Abb. (Band 4 der Schr. Hyg. Zool.).
- Leverkus M., R.C. Jochim, S. Schäd, E.B. Bröcher, J.F. Anderson, J.G. Valenzuela, A. Trautmann. 2006.** Bullous allergic hypersensitivity to bed bug bites mediated by IgE against salivary nitrophorin. *J. Invest Dermatol* 15: 91-96.

Moore D.J., and D.M. Miller. 2009. Field evaluations of insecticide treatment regimens for control of the common bed bug, *Cimex lectularius* (L). Pest Manag. Sci. 65: 332-338.

National Pest Management Association. 2010. The NPMA Releases First-Ever Comprehensive Global Bed Bug Study to Determine Extent of Resurgence. Available on Pestworld.org website. 15 May 2010.

Potter M.F. 2005. A bed bug state of mind: emerging issues in bed bug management. Pest Control Technol. 33: pages 88-85,88,90,92-93,96-97.

Potter M.F. 2011. The history of bed bug management. Am. Entomol. 57: 14-25.

Pritchard M.J. and S.W. Hwang. 2009. Severe anemia from bedbugs. Can. Med. Assoc. J. 181: 287-288

Paulke-Korinek M., M. Széll, H. Leflerl, H. Auer, C. Wenisch. 2012. Bed bugs can cause severe anemia in adults. Parasitol Res. 110: 2577-2579.

Pinto L.J., R. Cooper, S.K. Kraft. 2007. Bed Bug Handbook. The Complete Guide to bed bugs and their control. Pinto & Associates, Inc. Maryland.

Reider E., G. Hamalian, K. Maloy, E. Streiker, L. Sjulson, P. Ying. 2012. Psychiatric consequences of actual versus feared and perceived bed bug infestation: a case series examining a current epidemic. Psychosomatics 53: 85-91.

Romero A., Potter M.F., Potter D.A. K.F. Haynes. 2007. Insecticide resistance in the bed bug: a factor in the pest's sudden resurgence? J. Med. Ent. 44: 175-178

Seong K.M., D.Y. Lee, K.S. Yoon, D.H. Kwon, H.C. Kim, T.A. Klein, J.M. Clark, S.H. Lee. 2010. Establishment of quantitative sequencing and filter contact vial bioassay for monitoring pyrethroid resistance in the common bed bug, *Cimex lectularius*. J. Med. Ent. 47: 592-599.

Usinger R.L. 1966. Monograph of Cimicidae (Hemiptera-Heteroptera). The Thomas Say Foundation Vol. VII.

Vaidyanathan R., and M. F. Feldlaufer. 2013. Review Article: Bed Bug Detection: Current Technologies and Future Directions. Am J. Trop. Med. Hyg., 88(4), 619-625.

Wang.C., T. Gibb, G.W. Bennett. 2009. Evaluation of two least toxic integrated pest management programs for managing bed bugs (Heteroptera: Cimicidae) with discussion of a bed bug intercepting device. J. Med. Ent. 46: 566-571.

Yoon K.S., D.H. Kwon, J.P.Strycharz, C.S. Hollingsworth, S.H. Lee, J.M. Clark. 2008. Biochemical and molecular analysis of deltamethrin resistance in the common bed bug (Hemiptera: Cimicidae). J. Med. Ent. 45:1092-1101.

Zhu F., J. Wigginton, A. Romero, A. Moore, K. Ferguson, R. Palli, M.F. Potter, K.F. Haynes, S.R. Palli. 2010. Widespread distribution of knockdown resistance mutations in the bed bug *Cimex lectularius* (Hemiptera: Cimicidae), populations in the United States. Arch. Insect. Biochem. Physiol. 73: 245-257.